

USE OF THIN SOI TO INHIBIT RELAXATION OF SiGe LAYERS

ABSTRACT OF THE DISCLOSURE

High-quality, metastable SiGe alloys are formed on SOI substrates having an SOI layer of about 500Å or less, the SiGe layers can remain substantially fully strained compared to identical SiGe layers formed on thicker SOI substrates and subsequently annealed and/or oxidized at high temperatures. The present invention thus provides a method of ‘frustrating’ metastable strained SiGe layers by growing them on thin, clean and high-quality SOI substrates.